Policy brief
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Unequal commutes

Job accessibility and employment in Accra

In brief

- Cities in sub-Saharan Africa are urbanising at an unprecedented pace, including Accra where the population has doubled in less than two decades. This trend has put great pressure on Accra's transport infrastructure and led to poor connectivity in the city.
- Poor connectivity is an obstacle for growth and might hamper firms' ability to recruit workers, deter investment by entrepreneurs, and discourage workers from seeking formal employment due to high commuting costs.
- This brief analyses employment accessibility across Accra and its immediate suburbs by looking at the share of economic opportunities that can be accessed by each of Accra's neighbourhoods. It also analyses the relationship between accessibility, labour market outcomes, and firms' hiring capacities.
- The authors find that there is a sharp disparity in job accessibility between those living in central and suburban neighbourhoods. Additionally, they find only 20-32% of all formal job opportunities are accessible through the widely used 'tro-tro' transit system.
- The authors conclude that improving public transportation and increasing mobility within Accra and reforming land-use regulations in areas with more access to transit would increase workers' access to jobs.

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Policy motivation

Cities in sub-Saharan Africa (SSA) are urbanising at an unprecedented pace. A recent report by the World Bank (2017) characterises African cities as costly, disconnected, and crowded. Accra is one of the fastest growing cities in SSA – its population has doubled in less than two decades due to rapid population growth and rural-urban migration. This trend has put great pressure on Accra's capacity to provide adequate access to public services and infrastructure. More than one quarter of the close to 4 million inhabitants in the Accra area commute daily to the city for various socio-economic activities. Congestion as well as long and costly commutes have become a problem for a significant share of the adult population. Such poor connectivity is an obstacle to growth and makes it hard for firms to recruit workers with adequate skills. It might also deter entrepreneurs from investing in the production of tradable goods and services and discourage workers from seeking formal employment due to high commuting and search costs. Agglomeration economies and urban productivity growth are inhibited as a result.

Study focus and method

Our research has two objectives. First, we provide a comprehensive diagnostic of employment accessibility across Accra and its immediate suburbs. Accessibility can be broadly understood as "the potential of opportunities for interaction" (Peralta & Mehndiratta 2014). Here, we follow standard practice and define accessibility as the share of economic opportunities that can be accessed for each of Accra's neighbourhoods in a given timeframe (45, 60, and 90 minutes) using a travel mode under typical travel conditions. We focus on the three main commuting modes of Accra's residents, i.e., private cars, walking, and informal shared mini-buses (tro-tro) using innovative datasets. The analysis mostly focuses on accessibility to formal jobs, due to data constraints. In a second part, we analyse whether we can detect any relationship between accessibility, labour market outcomes, and firm's hiring capacities using individual census and firm survey data.

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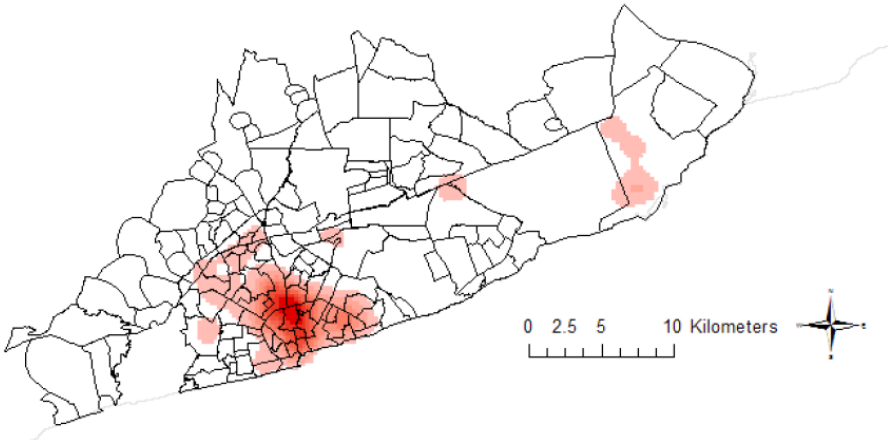
Our analysis reveals sharp disparities with respect to job accessibility. Residents of the city-proper tend to have the highest capacity to access jobs as employment tends to be concentrated in the historical central business district (Figure 1).

Figure 1: Formal job location in Accra and its suburbs



Notes: data from Jobs Survey 2006 (GSS). The Analysis is also carried out using establishments in 2015.

We also uncover significant inequalities in terms of accessibility by commuting mode (Figure 2). While most jobs can be reached by car within 60 minutes from any neighbourhood, access to jobs by the more popular tro-tro is highly unequal across Accra. More than 75% of Accra's residents choose this transportation mode to commute. Yet on average, a working age individual can only reach between 20-32% of all formal job opportunities by tro-tro within a 60-minute, one-way commute (Figure 3). Workers commuting by foot cannot access more than 5-7% of formal jobs within the same timeframe.

"Yet on average, a working age individual can only reach between 20-32% of all formal job opportunities by tro-tro within a 60-minute, one-way commute."

Figure 2: Unequal employment accessibility (Lorenz curves)

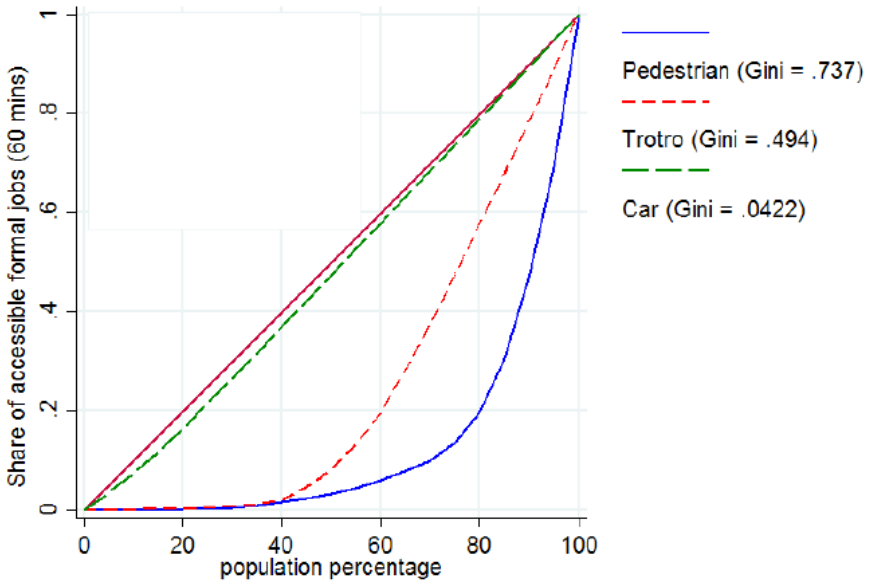
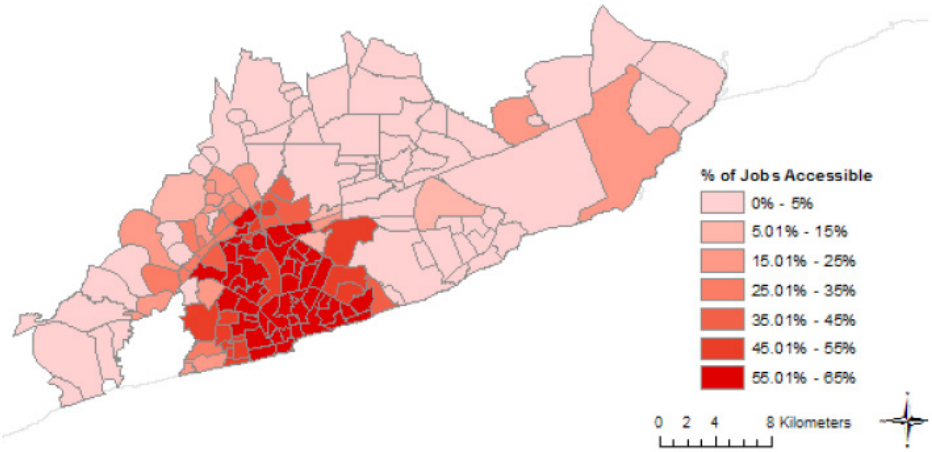


Figure 3: Accessibility to formal jobs by tro-tro.



Notes: Data sources 2006 Job survey and AFD 2016.

Weakened economic outcomes

In the second part of the analysis, we relate individual labour market performance to job accessibility based on residential location using micro census data (2010). Our econometric findings point towards a positive relationship between job accessibility and satisfactory labour outcomes. In other words, better connected individuals appear more likely to be employed and work in the formal sector. Conversely, individuals facing obstacles to reach job opportunities are more likely to be sole self-employed and work in the informal sector. This is consistent with self-employment and the informal sector being a constrained occupational choice for individuals lacking viable alternatives. Interestingly, we find women to be more sensitive to accessibility. This supports evidence found in other developing countries that women tend to be less mobile. Supporting these findings, we also see that firms located in neighbourhoods with a higher labour pool reach are less likely to report unfilled vacancies. On the whole, the analysis we conduct, while descriptive, strongly suggests that Accra's lack of efficient connectivity harms labour and firms' economic outcomes.

Policy implications

This research makes three main policy-relevant contributions. Firstly, it quantifies spatial inequalities in terms of access to employment opportunities across Accra. In addition, it finds how this impacts women. Finally, the lack of connectivity documented is found to affect both workers and firms.

Relevant authorities should therefore work toward improving connectivity within the city. Higher connectivity is not only important for improving

the living conditions of city dwellers, it is also essential to stimulate agglomeration economies and economic growth in the longer run. At the aggregate level, poor employment matching is harmful for the economic development of Accra as labour and capital-productive resources are not allocated efficiently. Agglomeration economies, manufacturing job growth, and urban productivity are hampered by the city-wide disconnect between workers and formal firms.

Policies that impact the transport structure of a city are very complex. Public transport policies go beyond infrastructure investments and need to understand their linkages to land use, human behaviour, the environment, and affordability. Elements of financial sustainability and institutional arrangements are also central (World Bank 2014). Because of these complexities, the impact of a single transport-related policy is very hard to quantify without considering general equilibrium effects, particularly in medium to long-term perspectives. The results of this paper emphasise the need to incorporate affordability and gender-dimensions into public transport reforms in Accra.

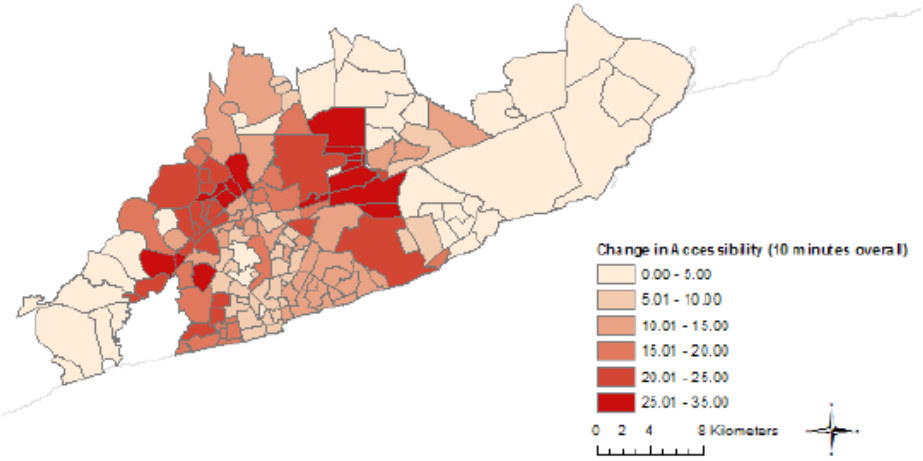
As a general exercise, we consider two city-wide reductions in tro-tro travel times of 10 and 20 minutes (Table 1). If we focus on the 10-minute increase, we see that, for instance, formal job accessibility within 60 minutes increases by 10 percentage points on average. This is a substantial gain. In Figure 4, we map changes in accessibility by neighbourhood. We find that for 60-minute journeys, the accessibility of northern suburbs residents improves the most. Tema residents in the eastern part of the metropolitan area experience relatively small accessibility gains in comparison. While limited, these results highlight the sizeable gains resulting from a small increase in accessibility. Yet, they also pinpoint at the importance of targeting transit policies and integrating networks for areas that are now less accessible.

Table 1: Alternative scenarios in changes of accessibility by tro-tro

	Obs	Mean	Std.Dev	Min	Max
By Trotro					
45 min	161	0.041	0.062	0.00	0.285
60 min	161	0.323	0.256	0.00	0.631
90 min	161	0.621	0.191	0.00	0.889
By Trotro - 10 minute overall					
45 min	161	0.184	0.200	0.00	0.579
60 min	161	0.422	0.267	0.00	0.685
90 min	161	0.676	0.183	0.00	0.945
By Trotro - 20 minute overall					
45 min	161	0.387	0.268	0.00	0.656
60 min	161	0.553	0.229	0.00	0.722
90 min	161	0.734	0.145	0.00	0.946

Notes: Accessibility Index to Formal Jobs (Jobs Survey 2006), population weighted (Census 2010, 10% sample)

Figure 4: Spatial distribution of change in accessibility within 60 minutes.



Public transit is virtually non-existent in Accra, the exception being a newly built Bus Rapid Transit line operating since November 2016. By improving public transportation and increasing mobility within Accra, workers would find it easier to access jobs. Likewise, firms would fill in vacancies more rapidly. Reforming land-use regulations and the densification in areas with higher levels of transit accessibility is also an efficient urban planning approach. About 90% of housing in urban Ghana is built without local authority control (UN-Habitat 2012). Relatedly, low-cost housing and informal settlements, whose residents are lower-income individuals with a higher dependency on walking and transit, should benefit from higher accessibility. Careful analysis needs to be carried out to understand the costs and benefits of the different policy options.

Further Readings

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